

**[00029]** Having thus described the invention, what is claimed is:

- 1 1. A disc cutterhead for a rotary mower, said cutterhead comprising:
  - 2 a low-profile generally bowl-shaped generally symmetrical cover with an
  - 3 upper generally convex side, an opposing generally concave underside and a
  - 4 peripheral edge;
  - 5 a plurality of quick change knife attachment systems generally
  - 6 symmetrically located around said peripheral edge, each said knife attachment
  - 7 system including:
    - 8 an elongate spring plate having a longitudinal axis and a transverse
    - 9 axis perpendicular to said longitudinal axis, a first end portion and an opposing
    - 10 second end portion with a middle portion therebetween, all three portions aligned
    - 11 along said longitudinal axis, and said middle portion having a curvilinear
    - 12 longitudinal side profile with bends therein, said first end portion rigidly affixed to
    - 13 said concave underside of said cover;
    - 14 a cylindrical knife pin affixed to said concave underside of said
    - 15 cover adjacent said peripheral edge and depending therefrom;
    - 16 an elongate knife with a first end and an opposing second end, said
    - 17 first end including a cutting edge and said second end having a hole
    - 18 therethrough with a diameter slightly larger than the diameter of said cylindrical
    - 19 knife pin;
    - 20 said second end portion of said spring plate having a hole
    - 21 therethrough with a diameter slightly larger than the diameter of said cylindrical
    - 22 knife pin;
    - 23 said bends in said middle portion of said spring plate being such
    - 24 that, with said hole in said knife fitted onto said knife pin and said knife pin
    - 25 extending into and through said hole in said second end portion of said spring
    - 26 plate, said second end portion of said spring plate is biased toward said
    - 27 underside of said cover, whereby said knife is held in operating position.

- 1 2. The cutterhead of claim 1, wherein:
- 2 said cover has a central vertical axis of rotation with a radial vertical
- 3 planes extending from said axis of rotation outwardly to each of said knife pins.

1 3. The cutterhead of Claim 2, wherein:  
2 said longitudinal axis of said spring plate of each attachment system is  
3 generally aligned with the respective said radial vertical plane.

1 4. The cutterhead of claim 3, wherein:  
2 said spring plate is comprised of spring steel.

1 5. The cutterhead of claim 4, wherein:  
2 said plurality of quick change knife attachment systems comprises two  
3 such systems.

1 6. In a disc cutterhead for a rotary mower, said cutterhead comprising a  
2 generally symmetrical cover with an upper generally convex side, an opposing  
3 generally concave underside and a peripheral edge, a plurality of knife  
4 attachment systems generally symmetrically located around said peripheral  
5 edge, the improvement wherein:  
6 each said knife attachment system includes:  
7 an elongate spring plate having a longitudinal axis and a transverse  
8 axis perpendicular to said longitudinal axis, a first end portion and an opposing  
9 second end portion with a middle portion therebetween, all three portions aligned  
10 along said longitudinal axis, and said middle portion having a curvilinear  
11 longitudinal side profile with bends therein, said first end portion rigidly affixed to  
12 said concave underside of said cover;  
13 a cylindrical knife pin affixed to said concave underside of said  
14 cover adjacent said peripheral edge and depending therefrom;  
15 an elongate knife with a first end and an opposing second end, said  
16 first end including a cutting edge and said second end having a hole  
17 therethrough with a diameter slightly larger than the diameter of said cylindrical  
18 knife pin;

19                    said second end portion of said spring plate having a hole  
20 therethrough with a diameter slightly larger than the diameter of said cylindrical  
21 knife pin;

22                    said bends in said middle portion of said spring plate being such  
23 that, with said hole in said knife fitted onto said knife pin and said knife pin  
24 extending into and through said hole in said second end portion of said spring  
25 plate, said second end portion of said spring plate is biased toward said  
26 underside of said cover, whereby said knife is held in operating position.

1    7.    The improvement of claim 6, wherein:

2                    said cover has a central vertical axis of rotation with a radial vertical  
3 planes extending from said axis of rotation outwardly to each of said knife pins.

1 8. The cutterhead of claim 7, wherein:  
2 said longitudinal axis of said spring plate of each attachment system is  
3 generally aligned with the respective said radial vertical plane.

1 9. The cutterhead of claim 8, wherein:  
2 said spring plate is comprised of spring steel.

1 10. The cutterhead of claim 4, wherein:  
2 said plurality of quick change knife attachment systems comprises two  
3 such systems.

1 11. A rotary mower comprising:  
2 a disc cutterbar made up of a plurality of cutterheads arranged in a row on  
3 an elongated support member;  
4 an enclosed drive mechanism affixed to said support member and driving  
5 each of said plurality of cutterheads, each cutterhead comprising:  
6 generally symmetrical cover with an upper generally convex side, an  
7 opposing generally concave underside and a peripheral edge, a plurality of knife  
8 attachment systems generally symmetrically located around said peripheral  
9 edge, the improvement wherein:  
10 each said knife attachment system includes:  
11 an elongate spring plate having a longitudinal axis and a transverse  
12 axis perpendicular to said longitudinal axis, a first end portion and an opposing  
13 second end portion with a middle portion therebetween, all three portions aligned  
14 along said longitudinal axis, and said middle portion having a curvilinear  
15 longitudinal side profile with bends therein, said first end portion rigidly affixed to  
16 said concave underside of said cover;  
17 a cylindrical knife pin affixed to said concave underside of said  
18 cover adjacent said peripheral edge and depending therefrom;

1                    an elongate knife with a first end and an opposing second end, said  
2 first end including a cutting edge and said second end having a hole  
3 therethrough with a diameter slightly larger than the diameter of said cylindrical  
4 knife pin;  
5                    said second end portion of said spring plate having a hole  
6 therethrough with a diameter slightly larger than the diameter of said cylindrical  
7 knife pin;  
8                    said bends in said middle portion of said spring plate being such that, with  
9 said hole in said knife fitted onto said knife pin and said knife pin extending into  
10 and through said hole in said second end portion of said spring plate, said  
11 second end portion of said spring plate is biased toward said underside of said  
12 cover, whereby said knife is held in operating position.

1    12.    The rotary mower of claim 11, wherein:

2                    said cover has a central vertical axis of rotation with a radial vertical  
3 planes extending from said axis of rotation outwardly to each of said knife pins.

1 13. The cutterhead of Claim 12, wherein:  
2 said longitudinal axis of said spring plate of each attachment system is  
3 generally aligned with the respective said radial vertical plane.

1 14. The cutterhead of claim 13, wherein:  
2 said spring plate is comprised of spring steel.

1 15. The cutterhead of claim 14, wherein:  
2 said plurality of quick change knife attachment systems comprises two  
3 such systems.